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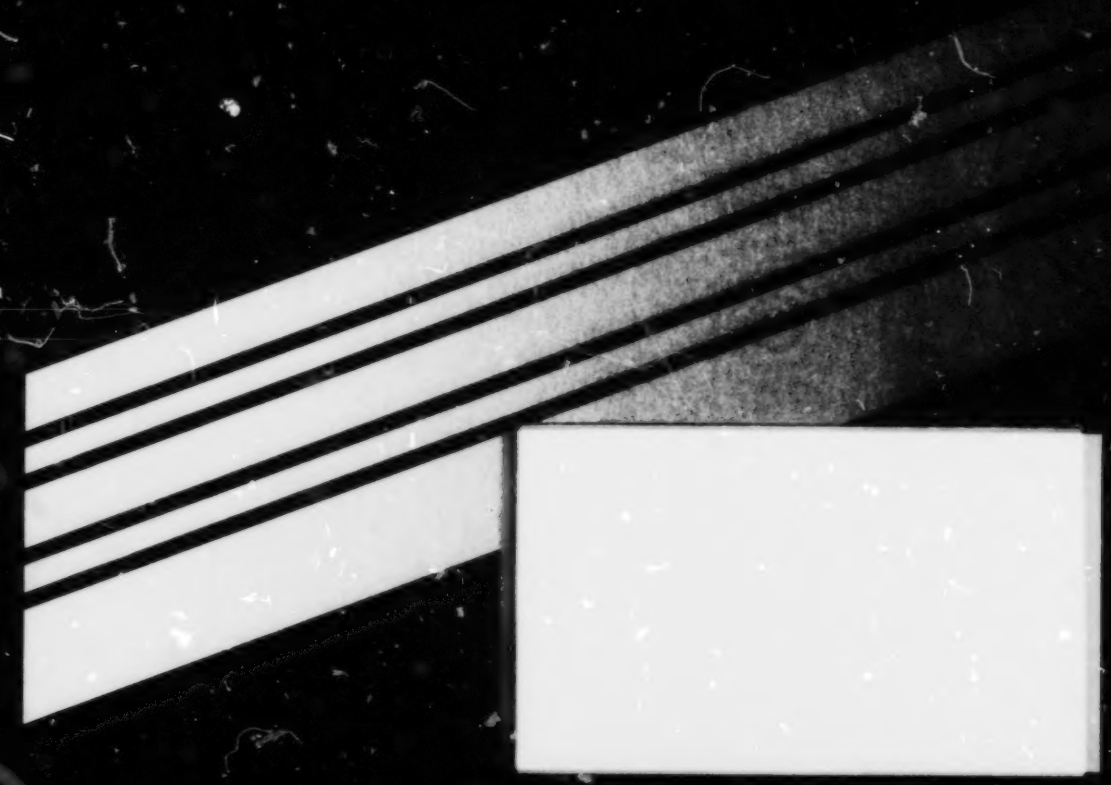

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THE EFFECTS OF INCARCERATION: 1. MEASURING CRIMINAL SENTIMENTS

NO. 1985-38

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Authors' Note

In 1983, the Research Division began the data collection componement of a project entitled 'The Effects of Incarceration'. A wide range of variables was collected from data sources that included inmate interviews, file reviews, psychometric tests and staff ratings. Sentence length (2-4 years, 4-8 years, were than 8 years, and the amount of time inmates had served at the time of the study (2-4 years, 4-8 years, and more than 8 years) were used to group the inmate population of the Correctional Service of Canada into population subsets. A stratified random sample of 650 prisoners, or about 6% of the inmate population was then selected equally from each of the 9 possible subsets.

This report represents the first in a series of papers that will be based on data from the Effects of Incarceration Study. It was undertaken as an Honours Thesis by the first author.

Abstract

Renewed interest in the attitude-behaviour relationship has generated interest in the role of criminal sentiments to criminological theory. This study examines the psychometric properties of 3 measures of criminal sentiments (Andrews, 1980): Attitudes Toward the Law, Courts, and Police; Identification with Criminal Others, and Tolerance for Law Violations. A stratified random sampling of 458 federal inmates were selected for a larger study of the effects of incarceration undertaken by the Research Division, Office of the Solicitor General of Canada. Volunteers were selected on the basis of their sentence length and amount of time served. Detailed interview data and file information were also collectd on each subject. Reliability measures include an inter-item correlation matrix, part-whole and split-half correlations, and the alpha coefficient. Validity measures were obtained by examining the realtionship between scale scores and interview/file review material including offence history. Results indicated that the 3 measures were highly reliable. Validity estimates reported mild relationships between criminal sentiments and the criterion measures.

Psychometric Analysis of a Criminal Sentiments Scale

Attitude Research

Following a period of popularity in the late 1930's and 1940's (Murphy, 1937; Doob, 1947; Chein, 1949; Dollard, 1949), attitude research was largely dormant. The 1960's saw a renewed interest in attitudes (DeFleur & Westie, 1963; Deutscher, 1966; Wicher, 1969), that continued throughout the 1970's (Ajzen & Fishbein, 1972, 1975; Calder & Ross, 1973; Liska, 1974; Gross & Niman, 1975) and is likely to remain steady for some time (Cialdini, Petty, & Cacioppo, 1981). The reason for the resurgence in attitude research is primarily due to developments in three areas: Cognitive Response Analysis, Consistency Models, and the Attitude-Behaviour Relatinship (Cialdini, et al, 1981). One of these three areas, the attitude-behaviour relationship is of primary importance due to an increasing optimism regarding the ability of attitudes to predict and cause behaviour (Cialdini et al, 1981). A result of this optimism is the enhanced use of attitude measurement in applied settings (Cialdini et al, 1981).

Attempts at defining attitudes have achieved varied success. According to Allport's (1935)

frequently cited classic definition:

> an attitude is a mental or neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations which it is related.

Zimbardo extends this definition by stating that attitudes are seen as enduring predispositions, but ones which are learned rather than innate. Thus, even though attitudes are not momentarily transient, they are susceptible to change (Zimbardo & Ebbesen, 1969). Williamson, Swingle, and Sargent (1982) define an attitude as a hypothetical cognitive construct which reflects the organization of beliefs, opinions, values, and behaviours within an individual. Three crucial dimensions of attitudes emerge from within these three definitions: attitudes are learned (Allport, 1935; Zimbardo & Ebbesen, 1969), attitudes affect behaviour (Allport, 1935; Zimbardo & Ebbesen, 1969; Williamson et al, 1982), and attitudes can change (Zimbardo & Ebbesen, 1969).

Three Dimensions of Attitudes

1) Williamson's social learning model asserts that attitude formation is derived from the reciprocal relation between sociocultural setting, reference

groups, and personality factors (Williamson et al, 1982). Of these three influences, Williamson pays close attention to sociocultural setting and reference groups. The sociocultural setting is said to define and limit the shaping and expression of attitudes (Williamson et al, 1982). For example, the sociocultural setting of the USSR could account for the rigidity of thinking and of the expression of speech of its citizens. Reference groups refer to those groups with which a person identifies and from which many of a person's attitudes, values and norms emerge (Williamson et al, 1982).

2) A longstanding question in early attitude research was whether attitudes cause behaviour or rather, do behaviours lead to attitudes. Recently, two independent studies (Kahle, 1979; Berman, 1979) found that attitude had causal predominance over behaviour. Attitudes, then, can have an important degree of predictive utility: by identifying a person's attitude on a particular topic, one can then predict that person's behaviour (Cialdini et al, 1981). In what has been hailed as one of the most influential papers on the attitude-behaviour problem, Ajzen & Fishbein (1977) found that attitudes were good predictors of behaviour only when attitudinal and behavioural measures showed a

high degree of correspondence (ie. matched on target, context, action, and time dimensions) (Ajzen & Fishbein, 1977). The failure of some studies to find significant attitude-behaviour relationships (Anderson & Tipsey, 1978) can probably be attributed to a lack of correspondence in these measures (Cialdini et al, 1981). It should be noted, however, that while examination of attitudes does provide encouraging results in the prediction of behaviour, behavioural prediction can be enhanced by taking variables in addition to attitudes into account: normative influences, effects of habit, logical models, and personality mediators (Cialdini et al, 1981).

3) It has been demonstrated that attitudes significantly affect behaviour (Wicher, 1969). Modifying attitudes should then produce an accompanying, noticeable change in behaviour. This type of manipultion has many practical implications in fields such as politics, advertising, and corrections.

The social learning approach to attitude formation (Zimbardo & Ebbesen, 1969) and change (Bandura, 1963) has provided the grounding premises for another theory: Differential Association Theory. This theory, described in detail in a later section, asserts that criminal attitudes ultimately result from exposure

to procriminal norms and that criminals' attitudes are acquired via vicarious learning (Cressey, 1955).

Criminal Attitudes

Research on criminal attitudes was conducted on a slow but steady basis during the late 1930,s and 1940's (Gill, 1937; Reimer, 1937; Taft, 1942; Reilly & Young, 1946), increased in the 1950's (Sutherland, 1951; Thorpe & Smith, 1953), slowed in the 1960,s (Glaser, 1962; Burgess & Akers, 1966), and picked up in the 1970's and 1980's (Akers, 1973; Adams, 1973; Wilkins, 1975; Andrews, 1980; Andrews & Wormith, 1984). The recent surge of interest in criminal attitudes and criminal sentiments has no doubt been fueled in part by a renewed sense of optimism that the assessment and control of personal sentiments (attitudes, beliefs, and values) represent promising means to a greater understanding of human behaviour (Andrews & Wormith, 1984). Developments in social learning and emerging cognitive perspectives of deviant and nondeviant behaviour have encouraged this trend (Rotter, 1966; Akers, 1977; Bandura, 1977; Jessor & Jessor, 1977; Ajzen & Fishbein, 1980; Megargee, 1982).

Of all criminological theories, none has attracted more attention over a longer period of time than differential association theory. Introduced by

Sutherland in his 1939 edition of Principles of Criminology and unaltered since the 1947 edition, the theory is widely recognized as a sociological/learning theory of individual criminality and societal crime rates (Adams, 1973). Crucial elements of Sutherland's theory state that a) criminal behaviour is learned, b) the principal part of the learning of criminal behaviour occurs within intimate social groups, c) criminal behaviour is learned in interaction with other persons within intimate social groups, and that d) when criminal behaviour is learned, the learning includes both the techniques of committing the crime, and the specific direction of motives, drives, rationalization, and attitudes. As mentioned earlier, differential association theory has remained largely intact since 1947. Two notable extensions have been devised since then and should be mentioned here. The introduction of operant conditioning principles into the mainstream of criminological thought brought forth a more interdisciplinary explanation of criminality in the form of Differential Association-Reinforcement Theory (Burgess & Akers, 1966b). The incorporation of constructs such as personal, interpersonal, and automatic antecedents paired with reward and cost consequences (both additive and subtractive) have

further delineated differential association theory into what Andrews refers to as a Personal, Interpersonal, and Community-Reinforcement perspective on deviant behaviour (PIC-R) (Andrews, 1982). According to PIC-R, criminal conduct, from the subcultural perspectives, can be understood to represent conformity to procriminal norms. At the personal level, criminal sentiments represent the internalization of these procriminal norms (Andrews, 1984).

Sentiments have been demonstrated to have a causal significance towards behaviour by setting standards against which self-regulation occurs (Bandura, 1977; Carver & Schriver, 1981), by providing content for subvocal verbalizations and the images which may guide behaviour (Meichenbaum, 1977), and through storage of prior experience in the form of outcome expectancies and judgements of personal efficacy (Rotter, 1966; Bandura, 1981). Although these assertions have gained empirical support, general social learning perspectives (with the inclusion of PIC-R) have not been so bold as to proclaim that there is an automatic connection between criminal sentiments and action. Rather, the link between personal sentiments and behaviour may be moderated by attention to external rather than internal cues (Snyder, 1979),

the level of background social support for the behaviour in question (Schuman & Johnson, 1976) or habit strength (Megargee, 1982). In light of these limitations, however, the manipulation of sentiments for the purpose of eliciting anticriminal behaviour in inmates has been a popular subject of investigation in the last few years (Andres, Young, & Wormith, 1973; Andrews et al, 1977; Wormith, 1977; Andrews, 1980; Stevens, 1980; Wormith, 1984). These studies revolved around Cressey's premise that if criminals are to be changed, either they must become members of anticriminal groups or their present procriminal group relations must be changed (Cressey, 1955).

Attitude Measurement

Before being able to manipulate attitudes, it is important that they first be measured in order to determine to what extent a criminal's attitudes need to be modified. A number of different scaling models have been developed for use in attitude measurement in order to convert a series of behavioural observations into indices which purport to given an index of underlying attitude (Lemon, 1973). There are essentially four distinct approaches to attitude measurement: self-report, report of others, sociometric procedures, and records. Of these approaches, the self-report

procedure represents the most direct type of attitude assessment and should probably be employed unless one has reason to believe that the people whose attitudes are being measured are unable or unwilling to provide the necessary information (Henerson, Moris, & Fitz-Gibbon, 1978).

Within the self-report procedure, four major paper-and-pencil techniques for attitude measurement have been developed: Thurstone's method of equal appearing intervals, Gutman's Scalogram, Osgood's Semantic Differential, and Likert's Method of Summated Ratings. Thurstone's method was based on the assumption that statements of opinion on an issue could be ordered according to a dimension of expressed favourableness/unfavourableness. The Gutman Scalogram is based on the assumption that a single unidimensional trait can be measured by a set of statements ordered along a continuum of difficulty of acceptance. One major limitation of the Thurstone and Gutman methods is that these scales often lack content validity (Lemon, 1973). The construction of these scales, then, in order to produce an adequate sampling of items, is extremely laborious and time consuming (Williamson et al, 1982). Osgood's Semanatic Differential Scale rests on the assumption that there exists a

hypothetical semantic space of an unknown number of dimensions in which the meaning of any word or concept can be represented as a particular point (Zimbardo & Ebbesen, 1969). Although found to be a valid and reliable instrument (Heise, 1969), its ability to predict overt behaviour and its relationship to intensity and salience of attitudes are still matters which remain open to question (Lemon, 1973).

The Likert scale measures the extent of agreement/disagreement with each item. Each statement used is assumed to be a linear function of the same attitude dimension. This assumption provides the basis for summating the individual's ratings to obtain a final score. To attain validity, all items on the Likert scale must not be highly correlated with a common attribute (the attitude dimension) but must also be highly correlated with each other. While the Likert scale can provide much information on the ordering of people's attitudes on a continuum, it is unable (like the Thurstone scale does) to indicate how close or how far apart different attitudes might be from each other.

Measurement in the criminal attitudes/criminal sentiments areas has largely been conducted with scales of the Thurstone or Likert type. Many different dimensions of criminal sentiments have been examined.

Some of these dimensions include attitude toward the law (Katz, 1931; Rundquist & Sletto, 1936; Gregory, 1939; Watt & Maher, 1958), attitude toward capital punishment (Balogh & Meuler, 1960), attitude toward legal institutions (Chapman, 1960), and attitude toward police (Chapman, 1960) and probation officers (Chapman, 1960).

Psychometric Analysis

The utility of any attitude measure or attitude scale is essentially dependent upon two factors: validity and reliability. Validity refers to the extent to which a scale measures only that for which it was designed to measure, and nothing else. Without evidence of the validity of a test one does not know what characteristic the test actually measures and in turn, cannot interpret the scores (Brown, 1983).

Research has typically focused on three types of validity. Predictive validity refers to the degree to which a scale enables an investigator to predict the value of some criterion. It examines the relationship between scores on the attitude measure and some criterion which the measure is trying to predict (Lemon, 1973). Content validity involves establishing that the scale items adequately cover the relevant content area, so that a person's performance on the

scale is representative of his behaviour in the attitude area which is being sampled (Lemon, 1973). Construct validity provides an index of the degree to which an individual's performance on the attitude measure can be ascribed to the construct, a construct being defined as an inference made by the investigator to explain the relationships between different observations (Lemon, 1973). Recently, convergent and discriminant validity have attracted the attention of researchers. Convergent validation tries to establish strong positive correlations between different measures to show that they deal with the same constructs. Discriminant validation, on the other hand, tries to establish that a measure is unrelated to similar measures designed to deal with different constructs.

Reliability, the second crucial factor upon lwhich the utility of a scale is based, is the consistency of a scale over two dimensions: different forms (equivalence) and time (stability) (Brown, 1983). Methods that measure a scale's consistency over time examine the stability of a person's score from one administration of the scale to another. Methods that measure a scale's consistency over different test forms examine the equivalence between different forms of the same test: they measure the random error generated by

variations in content and method of scoring of the different forms (Lemon, 1973). Stability can be determined by calculating test-retest reliability coefficients. Equivalence can be determined by establishing inter-judge reliabilities, by alternate test forms, and through measures of internal consistency like the part-whole method, inter-item correlations, the split-half method, and the alpha coefficient.

The test-retest stability measure involves correlating scores on a test with scores on the same test administered at a later time (Hopkins & Stanley, 1981). The main disadvantage of this method is the practice effect of administering two identical tests to the same subject; the high test-retest correlation may be a function of memory rather than the test's reliability (Lemon, 1973). In addition, test-retest reliability would be inappropriate if the construct in question is subject to change over time (ie. attitudes). The correlation between the two measures would then be an index of the construct's change over time rather than a measure of te scale's reliability.

Inter-judge reliability is an estimate of the variability between different scorers of the same test (Lemon, 1973); its calculation involves correlating the

scores of a single test given to a particular subject by different scorers. Objective scoring criteria and computer scoring can reduce this variance.

The alternate forms equivalence involves the creation of a parallel test and correlating its score with the original test (Lemon, 1973). Although it is claimed that reliability estimates between alternate forms are very close to those estimated from internal consistency measures (Nunnally, 1978), the time and difficulty involved in creating alternate forms of a test, as well as the researcher's need for only one form of a particular test, limit the practicality of this technique (Hopkins & Stanley, 1981).

Internal consistency is defined as a product of the overall agreement between all the items or observations which make up a scale (Lemon, 1973). One method of examining internal consistency is the part-whole method. Items of a test are correlated with the total test score and with each other to produce an estimate of their agreement. Apart from being an estimate of internal consistency, inter-item correlations provide an item analysis in that they generate an index of discriminability by identifying those items that discriminate between subjects with either high or low scores on the total test.

Another measure of internal consistency is the split-half method, whereby the number of items within a test are divided in half and the two half-tests are correlated. A problem arises in this method in that different results can be obtained depending onlhow the items for the two halves were selected (Lemon, 1973). This difficulty can be avoided by the calculation of coefficient alpha. Coefficient alpha averages all possible split-half combinations thereby minimizing the effect of item selection of the internal consistency measure (Ferguson, 1981). Coefficient alpha provides a good estimate of reliability since most situations the major source of measurement error is due to the sampling of content. Coefficient alpha should be applied to all new measurement scales even if other measures of reliability are used (Nunnally, 1978).

While reliability and validity procedures come in many different forms, each of which reveals specific informaltion on the particular attitude scale in question, the selection of the appropriate procedures is not based upon a predetermined selection criteria; rather, the particular methods chosen are a function of the researcher's own intents and purposes (Lemon, 1973).

This study examines the psychometric properties

of a criminal sentiments scale administered as part of an effects of incarceration study conducted by the Ministry of the Solicitor General of Canada. Several research programs undertaken in the last ten years have used the criminal sentiments scale. Norms, demographic data, and reliability data were collected from samples of offenders versus nonoffenders (Andrews, 1980), psychiatric offenders (Wormith, in progress), and undergraduatese (Wilkins, 1973; Morrison, 1982). Convergent and discriminant validity, with the inclusion of a cursory factor analysis, were examined in a paper by Andrews and Wormith (1984). The present study examines reliability measures including inter-item and part-whole correlations, split-half reliabilities, and the alpha coefficient. Validity was examined by correlating subscale scores with selected variables from the interview/file review database and from staff/research questionnaires. Validity coefficients produced by this procedure were postdictive, since all data was historical (subjects reported on past behaviours and occurrences).

Method

Subjects

A random sample of 458 male federal inmates was used. Subjects ranged in age from 18 years to 68 years

with a mean age of 33 years (SD 9.49), and in sentence length from 2 years to 49 years with a mean sentence length of 11 years (SD 8.7)[1]. Of the subjects chosen, 86% were white, 10% were of native origin, and 4% were of various other races (hispanics, blacks, etc.). Inmates were sampled from all institutions in the Correctional Service of Canada (CSC). Sampling was proportioned by region. The total inmate population of each region was broken down according to sentence length (2-4 years; 4-8 years; 8 years or more; lifers-20 years) and amount of time served (6 months-4 years; 4-8 years; 8 years or more). Equal N's were randomly selected from each of the possible cells.

Instruments

Measures of all variables used in this study were collected in two stages. The first stage included four confidential research questionnaires: a criminal sentiments scale (the analysis of which is the object of this study), a self-report scale, a likes/dislikes scale, and an institutional adjustment scale. The second stage included file data and an interview concerning inmate needs and activities, as well as a staff/researcher inmate-rating questionnaire.

The instrument under examination is a measure of criminal sentiments and consists of five subscales:

Attitudes Toward the Law (AL: 10 items), Attitudes Toward the Courts (AC: 8 items), Attitudes Toward Police (AP: 7 items), Identification with Criminal Others (ICO: 10 items) and Tolerance for Law Violations (TLV: 6 items). A combined scale was also created by totalling the scores on the Law, Courts, and Police subscales (ALCP: 25 items).

The total scale comprised of 41 Likert type items using a five point scale from strongly agree to strongly disagree. Items were scaled in both positive and negative directions. All items were modifications of those found in scales used in the Connecticut Correctional System (Ontario Ministry of Correctional Services, 1970; Gendreau, Grant, Leipciger, & Collins, 1979). These modifications included: the substitution of the Likert response format for the true-false format in an attempt to increase the sensitivity of the measures; wording changes to make the items appropriate for a variety of samples; deletion of items if their content was more appropriately represented in one of the other subscales (Andrews & Wormith, 1984). ALCP items reflect respect for the law and criminal justice without reference to law violations or law violators; TLV items reflect specific justifications for illegal activity; ILCO items require personal judgements

regarding criminal others (Andrews & Wormith, 1984). A list of all items included in the total test can be found in Appendix A.

Procedure

Four CSC-employed researchers were trained centrally in the administration of the structured interview, the file review, and the confidential questionnaires. Due to the lack of an equivalent french-language measure, the Quebec region was excluded from this study.

Upon random selection, researchers notified prospective subjects of their selection, described the study, and invited the subjects to participate. Subjects were assured that all data would be confidential in that all data would be removed immediately from the institution, and that no institutional staff would have access to individual data. Subjects were informed that their participation was purely voluntary: no rwards or contingencies appolied to subject participation. Consenting subjects were interviewed and tested at a later visit to the institution. Testing and interviewing the sample was done individually over the course of one year. Interviews typically lasted 1.5 hours; completion of the questionnaires typically took 45 minutes.

All data were returned to the Office of the Solicitor General of Canada for analysis. Psychometric properties of the criminal sentiments scale were examined. Reliability measures included inter-item correlations, part-whole and odd-even split-half reliabllities, and the alpha coefficient. Validity analysis consisted of correlations between criminal sentiments and selected variables: age, a series of criminal history measures, self-disclosures, contacts with crime, self-reports, and staff ratings. All variables were selected from interview/file review data and from staff/researcher questionnaires. For a list of these variables, see Appendix B.

Results

Reliability Analysis

The results of all inter-item correlations are summarized in Table 1. Correlations between an item a) its subscale score, b) items within the same subscale, and c) items from different subscales provide both external consistency and item discriminability measures. Examination of these measures exposes the weakest items: those items with the smallest within-scale and item-total r's will have the least internal consistency and discriminability. The weakest items within each subscale were items 15 and 18 (AL) 8

and 23 (AC), 24 (AP), 35 and 41 (ICO), and 39 (TLV). Selection criteria for weak items appears in Appendix C. Inter-scale reliability coefficients showed strong correlations between the ALCP score and its constituent parts (see Table 2). Identification and Tolerance subscales showed strong negative correlations with ALCP. The results of Table 2 suggest that positive attitudes towards the law, courts, and police correlate inversely with little Identification with Criminal Others, and low Tolerance for law Violations.

Insert Table 1 and 2 about here

Split-half reliability is summarized in Table 3. AL, AC, and AP subscales show strong relationships between half-tests with correlations of .74, .70, and .63, respectively. ALCP and AT scales behaved similarly with correlations of .85 and .75, respectively. AI, however, exhibited a weak relationship between halves, with a correlation coefficient of only .36. All correlations in Table 3 were significant at $p < .0001$.

Insert Table 3 about here

Subscale alpha coefficients appear in Table 4. All scales generated α = .80 with the exception of AI (α = .53).

Insert Table 4 about here

Validity Analysis

Postdictive validity coefficients are listed in Table 5. Moderate correlations ($p < .0001$) indicated that age was related toa prosocial attitudes. Criminal history measures produced conflicting results. Total number of Incarcerations was related to antisocial attitudes while increasing time spent in jail was indicative of a prosocial orientation. It is logical to assume, however, that Total Number of Incarcerations would coincide with more time spent in jail and that both these variables would vary with age. Table 6 presents coefficients for both these variables when age is held constant. Total Number of Incarcerations was correlated more strongly with antisocial attitudes while time spent in jail was no longer found to relate significantly with anticriminal sentiments. Age, then, acted as a suppressor variable in that it masked the effect of criminal history on criminal sentiments.

Insert Table 5 and 6 about here

Self-disclosures showed consistent mild correlations with prosocial attitudes. Contacts with crime (family members served time) was associated with procriminal attitudes. Self-report measures revealed that frequency angry/mad, frequency tense/uptight/anxious, frequency down/depressed, and frequency bored related significantly with criminal sentiments as were reports of recent drug use. Frequency guilty/ashamed was found to be related to prosocial attitudes.

Staff ratings indicated that prosocial attitudes varied directly with the quality of relationships with staff. Difficult Following Institutional Rules was related to criminal sentiments.

Convergent validation involved correlating Criminal History, Self Disclosures, Staff Ratings, and MMPI Psychopathic Deviate scores with criminal sentiments. Mild but significant correlations were obtained ($p < .05$) in all cases with the exception of the MMPI scale. Psychopathic Deviate scores were not found to be related significantly to criminal sentiments. Discriminant validation involved correlating criminal sentiments with the remaining MMPI

subscales. No significant relationships were found to exist.

Discussion

Evidence regarding the internal consistency of the criminal sentiments scale was sufficiently strong to deem it a highly reliable instrument. The weak items identified by the inter-item correlations should be reworded to make them more appropriate for an inmate population and to ensure that their content is not represented in part in another subscale. If rewording proves to be too difficult a task, deletion of these items may be necessary and new items will have to be generated. Inter-scale correlations indicate strong agreement within both the prosocial (ALCP) and antisocial (ICO and TLV) scales. This finding extended to the split-half correlations and the alpha coefficients with the exception of the ICO scale. A similar problem was reported in a paper by Andrews and Wormith (1984). Increasing the number of items within the scale may reduce this problem by creating a better sample of ICO indicators. Overall, the reliability of the criminal sentiments scale was quite strong with r's greater than .80 not uncommon.

Validity estimates, although significant, were not outstanding. Attitude and personality measures

similar to the instrument under study typically report r's of between .30 and .40. The majority of significant r's reported in this study were less than .20. One possible explanation of these low coefficients has already been mentioned. Age was shown to act as a suppressor variable on criminal history. Controlling for age uncovered the relationship between criminal history and antisocial attitudes. It is possible that other such variables may be in operation and that they could account for the low r's. Multivariate analysis, in assuming that behaviour is caused by more than one factor, might produce higher r's and should be conducted in future research on this instrument.

Other possible sources of error contributing to the low validity coefficients are the psychometric properties of the simple ratings. If the interview, file review, and staff/researcher questionnaires were neither valid nor reliable, they would serve as poor criterion measures for postdictive validity analysis. The suitability of criterion measures should be examined before they are used as correlates for validity studies.

Convergent and discriminant validities were also less than outstanding. Correlations were mild for

reasons discussed above. Unexpectedly, the MMPI Psychopathic Deviate subscale did not show significant correlations with criminal sentiments. It should be noted, however, that MMPI administration occurred at a time previous to this study. The possibility exists that subjects' attitudes changed on these dimensions in the time span between the administration of the MMPI and the commencement of this study. Further investigation is necessary to resolve this issue.

Despite low correlations, significant evidence does exist to support the construct validity of criminal sentiments. Self-reports reveal that antisocial subjects often report feeling angry/mad, tense/uptight/anxious, down/depressed, and bored. They less frequently report feelings of guilt/shame, and are more likely to disclose their drug habits to researchers. Subjects high in criminal sentimentsx are also less likely to disclose personal matters to staff. Staff ratings indicate that antisocial subjects have poorer relations with staff and are more likely to have difficulty following institutional rules. File records indicate that criminal sentiments varies directly with total number of incarceration.

The currently reported results suggest the promise of the criminal sentiments scale for use in

corrections. Considering sentiments' amenability to influence combined with the predictive validity of their inducted change (Andrews & Wormith, 1984), the criminal sentiment scale could serve as an invaluable diagnostic tool in the assessment of offenders both for intervention programs and for parole purposes. Although already a reliable tool, the criminal sentiments scale requires further examination to more accurately assess its validity.

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Footnotes

1. In the calculation of average sentence length, criminals with life sentences were arbitrarily assigned a sentence length value of 20 years.

Appendix A

Criminal Sentiments Subscale Items

1. Laws are so often made for the benefit of small selfish groups that a person cannot respect the law. (AL-)*
2. Nearly all laws deserve our respect. (AL+)
3. It is our duty to obey all laws. (AL+)
4. Laws are usually bad. (AL-)
5. The law is rotten to the core. (AL-)
6. Almost any jury can be fixed. (AC-)
7. You can't get justice in court. (AC-)
8. On the whole, lawyers are honest. (AC+)
9. Fake witnesses are often produced by the prosecution. (AC-)
10. On the whole, the police are honest. (AP+)
11. A cop is a friend to people in need. (AP+)
12. Life would be better with fewer police. (AP-)
13. The police should be paid more for their work. (AP+)
14. The police are just as crooked as the people they arrest. (AP-)
15. All laws should be strictly obeyed because they are laws. (AL+)
16. The law does not benefit the common person. (AL-)
17. The law as a whole is sound. (AL)

Appendix A - Cont'd

18. In the long run law and justice are the same. (AL+)
19. The law enslaves the majority of people for the benefit of a few. (AL-)
20. On the whole judges are honest and kindhearted. (AC+)
21. Court decisions are almost always just. (AC+)
22. Almost anything can be fixed in the courts if you have enough money. (AC-)
23. A judge is a good person. (AC+)
24. Our society would be better off if there were more police. (A)
25. Police rarely try to help people. (AP-)
26. Sometimes a person like myself has to break the law in order to get ahead. (TLV+)
27. Most successful people used illegal means to become successful. (TLV+)
28. People who have been in trouble with the law have the same sort of ideas about life that I have. (ICO+)
29. People should always obey the law no matter how much it interferes with their personal ambition. (TLV-)
30. I would rather associate with people that obey the law than those who don't (ICO-)

Appendix A - Cont'd

31. It's alright for a person to break the law if he/she doesn't get caught. (TLV+)
32. I'm more like the people who can make a living outside the law than I am like those who only break the law occasionally. (ICO+)
33. Most people would commit crimes if they knew they wouldn't get caught. (TLV+)
34. People who have been in trouble with the law are more alike me than people who don't have trouble with the law. (IC)
35. There never is a cause for breaking the law. (TLV-)
36. I don't have much in common with people who never break the law. (ICO+)
37. A hungry person has the right to steal. (TLV)
38. It's alright to evade the law if you don't actually break it. (TLV+)
39. No one can violate the law and be my friend. (ICO-)
40. A person should obey those laws which seem reasonable. (TLV+)
41. A person's a fool to work for a living if he/she can get by some easier way; even if it means violating the law. (TLV+)

Appendix A - Cont'd

Note: AL: Attitude Toward the Law

AC: Attitude Toward Courts

AP: Attitude Toward Police

TLV: Tolerance for Law Violations

ICO: Identification With Criminal Others

* The 5-point Likert scale ranges from Strongly Disagree to Strongly Disagree and is scored 1 to 5 (+) or 5 to 1 (-)

Appendix B

Postdictive Validity Criterion Measures

Age:

Age.

Subject's age at time of interview.

Criminal History:

Total number of months served in juvenile training school/reformatory.

Total number of months served in provincial jail/prison.

Total number of months served in federal jail/prisor.

Total number of incarcerations: provincial system.

Total number of incarcerations: federal system.

Total number of previous convictions (federal/provincial: summated variable).

Total number of incarcerations (federal/provincial: summated variable).

Length of present sentence.

Total number of months served on present sentence.

Total number of months in federal/provincial jail (summated variable).

Self Disclosures:

Number of times in past months talked of personal matters with:

Appendix B - Cont'd

Living Unit Staff

Classification Officer

Correctional Staff

Work/School Staff

Chaplain/Priest

Program Staff

Psychologist/Psychiatrist

Total disclosures (summated variable)

Contacts with Crime:

Family members done time (summation of father/mother/brothers/sisters done time).

Self Report:

During sentence, how often felt:

angry/mad

tense/anxious/mad

down/depressed

lonely

bored

guilty/ashamed

MMPI Psychopathic Deviate Scale

Recent Drug Use:

Nonissued Drug/Alcohol use in the last 3 months:

Appendix B - Cont'd

Marijuana-hash

Tranquilizers

Total drug use (summated variable)

Staff Ratings:

Relationship with staff (summated variable).

Difficulty following institutional rules.

Appendix C

Weak-Item Selection Criteria

Mean item-scale correlations were calculated for each subscale. Weak items were identified as those whose item-scale correlations were greater than one standard deviation below their subscale mean.

Table 1 (cont'd)

Inter Item Correlation Matrix of Criminal Sentiments

TSAL: Attitude Toward the Law

TSAC: Attitude Toward Courts

TSAL: Attitude Toward Police

ALCP: Attitude Toward Law, Courts, Police

ICO: Identification With Criminal Others

TLV: Tolerance for Law Violations

Table 2

Inter-Scale Correlations for Criminal Sentiments Scales

Subscale	TSAL	TSAC	TSAP	TSAI	TSAT	ALCP
TSAL	X					
TSAC	.71	X				
TSAP	.70	.71	X			
TSAI	-.65	-.56	-.56	X		
TSAT	-.65	-.55	-.56	.53	X	
ALCP	.91	.90	.88	-.67	-.45	X

Note: $r = .19$, $p < .0001$

N = 458

Table 3

Split-Half Correlations for Criminal Sentiments Scales

Subscale	TSAL1	TSAC1	TSAP1	TSAI1	TSAT1	ALCP1
TSAL2	.74	.61	.66	-.30	-.63	.78
TSAC2	.62	.70	.65	-.25	-.49	.76
TSAP2	.48	.45	.63	-.22	-.41	.59
TSAI2	-.36	-.38	-.34	.36	.44	-.42
TSAT2	-.52	-.46	-.55	.39	.75	-.59
ALCP2	.74	.69	.77	-.28	-.61	.85

Note: $r = .18$. $p < .0001$

N = 455

Table 4

Alpha Coefficient for Criminal Sentiments Scales

Subscale	
TSAL	.80
TSAC	.81
TSAP	.80
TSAI	.53
TSAT	.81
ALCP	.91

Table 5

Postdictive Validities of Criminal Sentiments

	TSAL	TSAC	TSAP	TSAI	TSAT	ALCP
Age:						
Age	.18	.22	.19	-.20	-.20	.22
Age at interview	.19	.21	.18	-.21	-.21	.22
Criminal History:						
Number of months in juvenile training facility	-.11	-.05	-.08	.12	.12	-.07
Number of months in provincial jail	-.03	-.06	-.02	.06	.06	-.04
Number of months in federal jail	.06	.04	.11	-.04	-.04	.08
Total number of incarcerations: provincial system	-.08	-.04	-.02	.12	.12	-.05
Total number of incarcerations: federal system	.01	.06	.11	.04	.04	.06
Total number of previous convictions	-.07	-.05	-.02	.06	.06	-.05
Total number of incarcerations	-.06	.00	-.03	.10	.10	-.01
Length of present sentence	-.01	.00	.05	-.06	-.06	.01
Total time served on present sentence	.11	.13	.16	-.05	-.05	.15
Total number of months in federal/ provincial jail	.10	.14	.15	-.04	-.04	.14

(table continues)

Table 5 (cont'd)

Postdictive Validities of Criminal Sentiments

	TSAL	TSAC	TSAP	TSAI	TSAT	ALCP
Self Disclosures to:						
Living Unit Staff	.10	.09	.11	-.16	-.16	.11
Classification Officer	.10	.11	.10	-.15	-.15	.12
Correctional Staff	.06	.01	.06	-.14	-.14	.05
Work/School Staff	.02	-.03	.04	-.12	-.12	.01
Chaplain/Priest	.06	-.03	-.01	-.13	-.13	.01
Program Staff	.05	.02	.08	-.11	-.11	.05
Psycho/Psychiatrist	.08	.09	.08	-.11	-.11	.09
Total disclosures	.09	.04	.10	-.17	-.17	.09
Contacts with Crime						
Family members done time	-.07	-.11	-.07	.08	.08	-.09
Self Report						
Frequency angry/ mad	-.19	-.20	-.14	.27	.27	-.20
Frequency tense/ uptight/anxious	-.08	-.14	-.01	.14	.14	-.09
Frequency down/ depressed	-.09	-.13	-.07	.19	.19	-.11
Frequency lonely	-.03	-.01	.05	.02	.02	-.01
Frequency bored	-.21	-.24	-.15	.28	.28	-.23
Frequency guilty/ ashamed	.26	.22	.24	-.25	-.25	.27

(table continues)

Table 5 (cont'd)

Postdictive Validities of Criminal Sentiments

	TSAL	TSAC	TSAP	TSAI	TSAT	ALCP
MMPI Psychopathic Deviate scale	.09	.08	.08	-.02	-.02	.09
Recent drug use: marihuana/hash	-.04	-.04	-.07	.14	.14	-.05
tranquilizers	-.08	-.06	-.05	.12	.12	-.07
total drug use	-.04	-.05	-.08	.16	.16	-.06
Staff Ratings						
Relationship with	.18	.12	.12	-.09	-.09	.16
Difficulty following institutional rules	-.10	-.12	-.10	.07	.07	-.10

Note: $r = .09$ $p < .05$; $r = .12$, $p < .01$

N = 456

Table 6

Postdictive Validities of Criminal Sentiments

Controlling for Age (Partial Correlations)

	TSAL	TSAC	TSAP	TSAI	TSAT	ALCP
Total number of incarcerations: Provincial system	-.10	-.07	-.04	.14	.14	-.08
Total number of incarcerations: Federal system	-.07	-.03	.03	.13	.13	-.03
Total number of incarcerations	-.11	-.07	-.02	.17	.17	-.08
Total number of months in federal/provincial jail	.02	.05	.08	.04	.04	.08
Total time served on present sentence	.06	.07	.10	.01	.01	.08

Note: $r = .09$, $p < .05$; $r = .12$, $p < .01$

N = 455